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书评
Book Review

FLORA TSINLINGENSIS, TOME III, Pt. 1 BRYOPHYTA

Instituto Botanico Boreali-Occidentali Academiae Sinicae: Flora Tsinlingensis. Tomus III. Bryophyta (Pars I). 1978. 4.10 Chinese Yen (HK $ 25.00 or US $ 6.00). Newsprint quality paper with hard cover. 329 pp. 236 figures.

The plants of Tsinling Mountain Range in Shensi Province which serves as the water divide of the famous Hwang-ho (Yellow) and the Yangtze Rivers, represent perhaps one of the most interesting regional floras in China. The mountain systems run from west, connecting the Tibetan mountains, to east, merging with the vast plain of eastern China. Phytogeographically the area is in the transition zone of the mixed mesophytic forests to the south and the montane-boreal coniferous forests to the north. Because of the diversity of local topography and the development of characteristic plant communities from low elevations to the highest peak which rises to 4000 m, endemism is reported to be high.

The Chinese botanists have concentrated their efforts in recent years in analyzing and understanding the local flora. In consequence, a large project entitled Flora Tsinlingensis has come to light. Tomus I and II, which deal with the vascular plants, have already been published.

Tomus III, part I deals with mosses, and part II will deal with the hepatic flora of the area. The new book provides many evidences revealing the rich, unique and transitional nature of the local flora. A whole array of temperate boreal and subtropical to tropical genera is reported: *Buxbaumia, Andreaea, Cirriphyllum, Entodon, Lyellia, Oreas, Myurella, Myuroclada, Drepanocladus, Timmia, Tetraphis, Tetraplodon, Hylocomium, Sphagnum* to *Barbella, Erythrodontium, Erpodium, Macromitrium, Hypopterygium, Meteorium, Neckeropsis, Homaliodendron, Trachypus* and *Venturiella.* A few broadly endemic eastern Asiatic genera such as *Giraldiella, Prionidium* and *Trachycystis* are also described.

A total of 311 species belonging to 136 genera and 44 families are described in detail and illustrated. Surprisingly no new taxa are proposed, nor are new records added to the known Chinese moss flora. The general format follows that of the other Chinese moss floras already published, with keys to the species, habitat and distributional information, economic importance, and, finally, the taxonomic indices. A new feature in the present volume is the inclusion of 23 black and white photographs showing the habits of a number of the local moss species.

The present work, nevertheless, is somewhat weaker both in content and writing than the earlier Chinese works of a similar nature.

The volume gives the initial impression that it is based on insufficient collections made from the area. It is hard to believe that large and common boreal genera including *Sphagnum, Andreaea, Polytrichum, Calliergon, Kiaeria and Ditrichum* are represented locally by only one species or none at all. The alternative possibility is that such species may have been collected but were not noted by the authors. The largest genus in the flora is *Mnium* sensu lato with 25 species, followed by *Entodon* (16 species), *Brachythecium* (12 species) and *Barbula* (10 species).

At the turn of this century, a few western plant collectors visited the Tsinling Mountains. Their collections later formed the basis of several interesting bryological papers written by Brotherus, C. Mueller and Dixon. None of these old collections and publications appear to have been consulted by the authors in preparing the present moss flora. This is evident since many of the new species described, and other taxa reported, by these European bryologists from the area were not mentioned in the new volume. Taxa like *Gollania densepinnata* Dix., *Leucodon coreensis* Card., *Mnium albolimbatum* C. Muell., *Homalia levieri* C. Muell. and *Herpetineuron flagelligerus* C. Muell., to name only a few examples. Furthermore, Dixon (Journal of Botany, September, 1941) discussed his taxonomic concepts between *Leucodon denticulatus* Broth. ex Dixon non C. Muell. and *Leucodon exaltatus* C. Muell. as two distinct taxa. Unfortunately, the paper was overlooked by the compilers of Index Muscorum who combined the two taxa following the opinion of an earlier paper by C. Mueller. The Chinese bryologists, in following the opinion of Index Muscorum, made no reference to Dixon's paper which, incidentally, was an attempt to revise the Chinese species of *Leucodon*. Similarly, Ando's paper on the Chinese *Cupressina* described by C. Mueller, which came out in the Bot. Mag. Tokyo 79 (1966): 759—769, was overlooked. The isotype materials of Giraldi's collections from Tsinling area, which are preserved at the University of Florence, Italy, obviously were not borrowed for study. Otherwise, the authors would have noted the change of names proposed by Ando in 1966 and his creation of a new endemic genus *Eurohypnum* to accomodate C. Mueller's taxon known as *Cupressina leptothallum*. In this regard, the authors chose the easy way by mechanically following the Index Muscorum in calling the taxon *Erythrodontium leptothallum* (C. Muell.) Nog. This neglect in obtaining the past literature or critical evaluation of the original type specimens preserved outside of China has posed a serious threat to the quality of taxonomic research done by the authors. It is possible that the situation is merely the result of the long isolation of Chinese bryologists from the outside world for nearly 20 years, and is not a reflection of a taxonomic philosophy that belittles the desirability of clarifying nomenclatural confusion based on historical collections.

Equally disturbing is the fact that the authors of the new book seem to possess inaccurate observations or unusual concepts of several circumboreal or even cosmopolitan species. This has resulted in the construction of contradictory dichotomous keys, inaccurate illustrations and ambiguous or incorrect species descriptions. Examples are:

(1) *Pleurozium schreberi* is placed in the genus *Hylocomium* in spite of the fact that the leaf areolation, especially the alar cells, and the lack of paraphyllia argue against it. In the other Chinese moss floras, the taxon is properly called *Pleurozium schreberi;*

(2) *Timmia megapolitana* is described to have papillae on the basal cells of the leaf sheath, while the papillae are actually absent or few and are confined to the upper part of the leaf sheath;

(3) *Plagiopus oederi* and *Racomitrium fasciculare* are reported to have smooth

leaf cells while both are papillose;

(4) the seta of ***Mnium venustum*** is observed to be papillose;

(5) illustrations of the habit of *Bartramia ithyphylla* and *B. pomiformis* are very similar and that the leaves of the former are described to be crisped when dry;

(6) alar cells in the illustration of *Hypnum callichroum* resemble those of *H. revolutum* contrary to the species description and the key which described them as being swollen with thin cell walls;

(7) the absence of papillose laminal cells was chosen as one key character to separate *Barbula* from *Didymodon*; yet, on the following page, *Didymodon giganteum* was mentioned to have papillose laminal cells;

(8) the drawing of the capsule of ***Oncphorus virens*** lacks the distinctive struma;

(9) ***Brachythecium plumosum*** is reported from a very unusual habitat: on wet ground inside forest or on thin soil over rock. I suspect that the specimens are not correctly interpreted.

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More errors can be cited. This discrepancy of species concepts and the inaccurate choice of critical and diagnostic key characters for the various taxa could have been avoided had the authors studied more authentic specimens determined by contemporary world authorities on mosses and consulted the many excellent floristic works prepared by Japanese, European and North American bryologists.

The other shortcoming is the failure of the authors to provide an introduction and summary to their floristic survey. A map of the whole study area showing the various major collecting sites would have been useful. Equally welcome would be a discussion on the bryofloristic relationship between the study area and the other regions of mainland China. Perhaps the authors intend to include such information in the concluding chapter of part II of present volume.

The renewed efforts of our Chinese colleagues to make useful contributions to our knowledge of Chinese bryology is to be complimented and encouraged. Nevertheless, quality should not be sacrificed by publishing such works too hastily.

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